

EPA Comments on LWG 4/21/2009 presentation of “Remedial Technologies” for the Feasibility Study

General Comments:

1. While the presentation is titled “Alternatives Screening” it does not cover remedial alternatives but presents an explanation and screening of technologies. EPA and its partners expected the LWG to present the comprehensive technology screen site-wide, then screen technologies for each AOPC, and then develop and present remedial alternatives. EPA acknowledges that the LWG’s 3/18/2011 letter stated that the LWG would determine site-wide GRAs, conduct a site-wide technology screen, and evaluate and screen each GRA and technology for each of the AOPCs. Although the presentation was consistent with the LWG’s letter, it fell short of providing a screening/development of remedial alternatives.
2. There appears to be a lack of common understanding of several key terms like “Alternatives” and “Sediment Management Areas”. In the course of developing the range of “alternative remedies” LWG and EPA have identified a very broad range of “alternative technologies” and “alternative measurements”. These different alternative refinements eventually need to be assembled into coherent remedies that address, perhaps to differing risk levels, perhaps different time lines to achieve the same risk level, the basic objective of risk reduction. EPA has said in its 2008 RI/FS Guidance to LWG that this would be a “combination” remedy such that the all-or-nothing single approach (i.e., dredge everything, cap everything, treat everything) could be avoided. “Alternative remedies” can be organized site-wide or primarily on a SMA-by-SMA approach or, as has been suggested in the past, with elements of both. However, there is need for a clearer logic behind the (eventual) organization of the different technologies/SMAs/etc. It is EPA’s expectation that these remedial alternatives will be presented in the June 22, 2011 meeting and that there may be a need for further discussions and direction on this issue if our expectations are not met.
3. The slides provided definitions on individual elements of technologies; however, the rationale was not provided (with the exception of dredging under and around structures) to justify the statements on how these different technologies would be combined with the yet to be developed SMAs, to develop potential “alternative remedies” which could then be evaluated in the FS with regard to the nine CERCLA FS evaluation criteria.
4. It is unclear why the Institutional Controls Addendum was not also presented as part of the April 6 presentations. It merely repeats standard Superfund policy and guidance with no specifics as to how such controls would or could be included into any alternative remedy.
5. It’s apparent from the presentation that in areas that show unacceptable risk, but are outside of SMAs, the only technology the LWG plans to consider is MNR. The LWG must consider a range of alternatives (or even technologies). That range of alternatives can be focused on the less aggressive alternatives, but the only alternative (or technology) the LWG is currently considering in these non-SMA areas is MNR.

Specific Comments:

1. Slides 6 & 26, Dry excavation: The LWG did not mention dry excavation using a cofferdam. This would be an expensive alternative, but effective & implementable since it has been done at

other sites. One additional advantage of dry excavation is the ability to better manage dredging-caused residuals, releases, & resuspension.

2. Slide 10, 2nd bullet: The “size” of SMA—indeed the configuration of each SMA—would most likely be dependent on other factors than just the RALs applied. The LWG has not provided a logical process for the conversion of current AOPCs to SMA (e.g., consideration of COCs, presence of structures, type and quality of habitat, incidence and type of debris, presence of utilities/crossings, and how addressed). While RALs may be one of the key criteria, it may not be the most critical factor. It’s important for EPA and its partners to understand, at least accept on a conceptual level, how the LWG will develop RALs before proceeding with a time-consuming effort of using RALs to define SMAs for the 6/22/2011 mtg. For this reason, it is critical that the LWG provide presentation materials in advance of the 6/22/2011 meeting.
3. Slide 10, Effectiveness: Definition appears to place MNR technology completely outside of SMA concept. This potentially suggests that every point in the River that lies outside of a defined SMA automatically becomes an “area” where MNR would occur.
4. Slide 11, Hot Spots of contamination: DEQ identifies Hot Spots on a point-by-point basis. This concept is contrary to the LWG’s position on Slide 11 which dismisses high concentrations of buried sediment that may be exposed as only being a concern if they impact the SWAC.
5. Slide 12, 1st bullet: The LWG needs to define what it means for both “longer time frames” and “somewhat higher” existing chemical concentrations. As an initial concept, the definition is not irrational; however, this same “concept” has been used for a couple of years and it does not appear to have advanced at all in providing a clear understanding of its meaning.
6. Slide 14: The conceptual model implied is that placed material doesn’t “move” but just settles into the substrate to improve chemical conditions and habitat quality. This model is incorrect, especially in a riverine system. The inevitable “movement” of placed material (preferably in a predictable manner) is what allows EMNR to work. Wave zones, for example, may be the logical placement location of material that is then allowed to erode to integrate with more contaminated downstream sediments. Higher areas of sediment conveyance in the river also may be the logical deposition points for materials that would then erode and be dispersed to enhance downstream beaches or shoals that are lightly to moderately contaminated. EMNR implementability often cannot be relied upon as a single-application solution, but requires periodic maintenance/renewal, especially in riverine environments where the sediments would naturally transport out of the site over some time scale.
7. Slide 15-17: LWG is highlighting in-situ treatment more than in previous presentations, noting that in-situ treatment has been successful at the Grasse River site in upstate New York, but has not provided supporting information. Details should be provided to EPA’s FS team to evaluate this technology.
8. Slide 15, 4th bullet: While EPA agrees with this point, we would expect that it be more thoroughly explained as part of the FS. Also, this raises the logical connection between the two technologies; situations where in situ treatment alone may not be effective, or where its reliability is uncertain, may be more appropriate to be considered for capping with reactive agents, or even just normal, but thicker, cap.

9. Slide 16, 3rd bullet: The observation regarding the “biologically active zone” is accurate, but partially misleading. ?? This is a point where the point made regarding the in-situ versus reactive cap consideration comes into play. Activated carbon is not effective for metals, however, a combination of the carbon (for organics) and conventional cap (if thicker than normal) may be. This may be a nuance more appropriately evaluated in detail during remedial design.
10. Slide 17: Similar comment to that made for Slide 14. The sediment in the lower Willamette River will move. As with EMNR, there may be advantages to “loading” at these questionable locations and allowing the natural processes to distribute the reagent downstream. Nevertheless, because the sediment will move out of the area, long-term “stability” may have to be created by periodic replenishment and monitoring.
11. Slide 23: LWG is indicating that standard capping is equally as effective as active capping (adding a reagent to the cap); therefore, active capping is not included in the comprehensive alternatives. There may be areas where adding a reagent to a cap would be more protective, for example in areas where there is upwelling groundwater. LWG should include active caps in such areas.
12. Slides 25 – 31, Dredging under docks & overwater structures: EPA heard a mixed message in the 4/12 meeting. On the one hand, LWG said that dredging under & around docks & overwater structures was largely a case-by-case evaluation, not appropriate for the FS, and better dealt with during remedial design. On the other hand, the LWG is screening out dredging around certain structures (Slide 3). If dredging under and around structures is screened out, it will be difficult to consider dredging on a case-by case basis during remedial design. It’s clear that an understanding needs to be reached as to how dredging around structures in the FS & RD/RA processes will be addressed.
13. Slide 26, 3rd & 4th bullets: While the one dredge pass and post-dredge cover may be a reasonable FS assumption for residuals management, that does not mean that it is the most appropriate or only approach. And while the proposed approach is consistent with the peer review comments on the Hudson, it doesn’t mean that it would be identical to what could be expected from peer review comments on the Willamette. The substance of this presentation is that capping (to some undefined depth) would therefore be implemented everywhere dredging occurs. This assumed approach may yield a consistently higher cost for the “removal alternative technology, which could either result in a “reasonable” FS estimate which would include a self-generated contingency or else in an inflated infeasibility perception. Additionally, the required post-dredge cover/cap becomes a project element that will require monitoring and potentially maintenance over the long-term, similarly to any other capping solution. However, one advantage of the post-dredge cover concept is that the cover itself can act as a source of EMNR material.
14. Slide 28: LWG gives a variety of reasons why they don’t want to evaluate dredging under docks and other structures. At a minimum, LWG should identify where dredging under docks and other structures may be required and make an assumption that sediment under X% (say 20%) structures will need dredging or capping so that a cost can be estimated for this component of the remedy. More information can be collected during remedial design to refine the approach

including eliminating the need for an active remedy, if appropriate. This should be applied to more than just “light structures.”

15. Slide 30, Upland access to land-based dredging: Riverbank cleanup and/or source control (e.g., riverbank reconfiguration) may result in improved access to land-based dredging or excavation. There are several key sites where riverbank cleanup work is expected: EOSM, Gunderson Area 3, Arkema, & Gasco. The LWG should consider possible land-based dredging and/or excavation from these sites.
16. Slides 32 – 36, Ex-situ sediment treatment & disposal: Anchor suggested creating a placeholder for options of treating dredged material to levels above clean fill criteria (i.e., partial ex-situ treatment). That partially treated material may have a beneficial use such as cap base for an upland cleanup. We support Anchor’s suggestion.